AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A perpendicular magnetic recording medium including a perpendicular orientation promoting underlayer between a substrate and a perpendicular magnetic recording layer for inducing the perpendicular orientation of the perpendicular magnetic recording layer, the perpendicular magnetic recording medium further comprising a crystal growth discontinuation layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer, wherein the perpendicular orientation promoting underlayer is formed of at least one material selected from the group consisting of Pt, Au, Pd, and Ti, and wherein the crystal growth discontinuation layer has a thickness no greater than 20 nm.

2. (Canceled).

3. (Canceled).

4. (Previously Presented) The perpendicular magnetic recording medium of claim 1, wherein the crystal growth discontinuation layer is formed of at least one material selected from the group consisting of Ti, Ta, permalloy, and an alloy of these materials.

5. (Original) The perpendicular magnetic recording medium of claim 3, wherein the crystal growth discontinuation layer is formed of at least one material selected from the group consisting of Ti, Ta, permalloy, and an alloy of these materials.

6. (Previously Presented) The perpendicular magnetic recording medium of claim 1, wherein the perpendicular magnetic recording layer is formed of a CoCr alloy.

7. (Original) The perpendicular magnetic recording medium of claim 6, wherein the perpendicular magnetic recording layer further comprises at least one material selected from the group consisting of B, Pt, Ta, V, Nb, Zr, Y, and Mo.

8. (Previously Presented) The perpendicular magnetic recording medium of claim 1, further comprising a protective layer and a lubricant layer sequentially on the perpendicular magnetic recording layer.

9. (Currently Amended) ~~The perpendicular magnetic recording medium of claim 1~~ A perpendicular magnetic recording medium including a perpendicular orientation promoting underlayer between a substrate and a perpendicular magnetic recording layer for inducing the perpendicular orientation of the perpendicular magnetic recording layer, the perpendicular magnetic recording medium further comprising a crystal growth discontinuation layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer, wherein the perpendicular magnetic recording medium has a double-layer structure including a soft magnetic layer between the substrate and the perpendicular orientation promoting underlayer.

10. (Currently Amended) ~~The perpendicular magnetic recording medium of claim 1~~ A perpendicular magnetic recording medium including a perpendicular orientation promoting underlayer between a substrate and a perpendicular magnetic recording layer for inducing the perpendicular orientation of the perpendicular magnetic recording layer, the perpendicular magnetic recording medium further comprising a crystal growth discontinuation layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer, wherein the perpendicular magnetic recording medium has a double-layer structure with a soft magnetic layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer.

11. (Canceled).

12. (Canceled).

13. (Previously Presented) The perpendicular magnetic recording medium of claim 2, wherein the perpendicular magnetic recording layer is formed of a CoCr alloy.

14. (Previously Presented) The perpendicular magnetic recording medium of claim 2, further comprising a protective layer and a lubricant layer sequentially on the perpendicular magnetic recording layer.

15. (Currently Amended) ~~The perpendicular magnetic recording medium of claim 2~~ A perpendicular magnetic recording medium including a perpendicular orientation promoting underlayer between a substrate and a perpendicular magnetic recording layer for inducing the perpendicular orientation of the perpendicular magnetic recording layer, the perpendicular magnetic recording medium further comprising a crystal growth discontinuation layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer, wherein the perpendicular magnetic recording medium has

a double-layer structure including a soft magnetic layer between the substrate and the perpendicular orientation promoting underlayer.

16. (Currently Amended) ~~The perpendicular magnetic recording medium of claim 2~~ A perpendicular magnetic recording medium including a perpendicular orientation promoting underlayer between a substrate and a perpendicular magnetic recording layer for inducing the perpendicular orientation of the perpendicular magnetic recording layer, the perpendicular magnetic recording medium further comprising a crystal growth discontinuation layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer for suppressing continuous crystal growth from the underlayer to the perpendicular magnetic recording layer, wherein the perpendicular magnetic recording medium has a double-layer structure with a soft magnetic layer between the perpendicular orientation promoting underlayer and the perpendicular magnetic recording layer.

17. (Currently Amended) A perpendicular magnetic recording medium, comprising:

a substrate;

a perpendicular orientation promoting underlayer located on said substrate, wherein the perpendicular orientation promoting underlayer is formed of at least one material selected from the group consisting of Pt, Au, Pd, and Ti, and wherein the crystal growth discontinuation layer has a thickness no greater than 20 nm[[:]];

a crystal growth discontinuation layer located on said perpendicular orientation promotion underlayer; and

a perpendicular magnetic recording layer located on said crystal growth discontinuation layer,

wherein said crystal growth discontinuation layer interrupts continuous crystal growth from the perpendicular orientation promoting underlayer to the perpendicular magnetic recording layer while maintaining a perpendicular magnetic orientation effect.

18. (Canceled).

19. (Currently Amended) ~~The perpendicular magnetic recording medium according to claim 17, further comprising~~ A perpendicular magnetic recording medium, comprising:

a substrate;

a perpendicular orientation promoting underlayer located on said substrate;

a crystal growth discontinuation layer located on said perpendicular orientation promotion underlayer;

a perpendicular magnetic recording layer located on said crystal growth discontinuation layer; and

a soft magnetic layer interposed between said substrate ~~an~~ and said perpendicular orientation promoting underlayer.

wherein said crystal growth discontinuation layer interrupts continuous crystal growth from the perpendicular orientation promoting underlayer to the perpendicular magnetic recording layer while maintaining a perpendicular magnetic orientation effect.

20. (Currently Amended) ~~The perpendicular magnetic recording medium according to claim 17, further comprising~~ A perpendicular magnetic recording medium, comprising:

a substrate;

a perpendicular orientation promoting underlayer located on said substrate,

a crystal growth discontinuation layer located on said perpendicular orientation promotion underlayer;

a perpendicular magnetic recording layer located on said crystal growth discontinuation layer; and

a soft magnetic layer interposed between said perpendicular orientation promoting underlayer and said crystal growth discontinuation layer,

wherein said crystal growth discontinuation layer interrupts continuous crystal growth from the perpendicular orientation promoting underlayer to the perpendicular magnetic recording layer while maintaining a perpendicular magnetic orientation effect.

21. (Currently Amended) ~~The perpendicular magnetic recording medium according to claim 17, further comprising~~ A perpendicular magnetic recording medium, comprising:

a substrate;

a perpendicular orientation promoting underlayer located on said substrate;

a crystal growth discontinuation layer located on said perpendicular orientation promotion underlayer;

a perpendicular magnetic recording layer located on said crystal growth discontinuation layer;

a soft magnetic layer located on said perpendicular orientation promoting underlayer; and

a second perpendicular orientation promoting underlayer located on said soft magnetic layer, wherein said soft magnetic layer and said second perpendicular orientation promoting underlayer are interposed between said perpendicular orientation promoting underlayer and said perpendicular magnetic ~~recoding~~ recording layer,

wherein said crystal growth discontinuation layer interrupts continuous crystal growth from the perpendicular orientation promoting underlayer to the perpendicular magnetic recording layer while maintaining a perpendicular magnetic orientation effect.